



S U B N E R O

## SUBNERO L12L SERIES MODEMS

Long-range acoustic communication for persistent presence

### APPLICATIONS

- ✓ Long-range operations in shallow, mid-range and deep waters
- ✓ Long-term seabed or sensor node deployments
- ✓ Communication and tracking of AUVs and subsea vehicles
- ✓ Coastal area monitoring networks



#### LONG RANGE COMMUNICATION

Over 10 km communication range, even in challenging littoral waters.

#### SOFTWARE-DEFINED DESIGN

Flexible, in-field configurable performance powered by UnetStack.

#### AUVS & SENSORS

Reliable long-range communication for AUVs and subsea IoT sensors.

#### HIGH THROUGHPUT

Supports data rates of up to 8 kbps in favourable conditions.

#### JANUS COMPATIBILITY

Fully compliant with NATO JANUS standard for interoperability.

#### BUILT-IN NETWORKING

Integrated network stack for large-scale underwater networks.



## L12L SERIES MODEMS

Designed for reliable long-range communication in shallow waters, Subnero's L12L series modem addresses one of the toughest challenges in underwater acoustics – maintaining robust links over extended distances in complex environments.

## TECHNICAL SPECIFICATION

### COMMUNICATION

Modulation (software defined)	FH-BFSK, PSK-OFDM
FEC (Forward Error Correction)	LDPC, BCH, Convolution code
JANUS support	Yes
Bandwidth	7 kHz (9 - 16 kHz)

### SOFTWARE

Framework	UnetStack
User Interface	Interactive web UI
Software Interfaces	Java, Groovy, Python, C, JavaScript, Julia, JSON/TCP

### ELECTRICAL

Power source	18 – 30 VDC (24 VDC recommended)
Power consumption	< 4 W (receive mode, nominal) < 45 W (transmit mode, avg.) < 150 mW (sleep mode) < 1 mW (deep sleep mode)
Wake up modes	Acoustic wake up External electrical interrupt Scheduled wake up
External interface	Ethernet (10/100 Mbps), RS232
On-board storage	256 GB, 1 TB
Receive channels	1, 2 (configurable at the time of purchase)

### MECHANICAL

Hull material	Aluminum, Stainless steel
Depth rating	300m, 2000m
Dimensions	SC: ø 100 x 313 mm, OC: ø 88 x 137 mm
Weight (in air / water)	SC: 3.8 / 1.5 kg, OC: 0.65 kg / NA
Available Configurations	Standalone Configuration (sc) Open Configuration (OC)

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